REMARKS

This is in full and timely response to the Office Action of November 12, 2003 (Paper No. 11052003). This paper presents arguments as to the allowability of the claims and further disputes certain findings of fact in connection with the rejection of the claims. Claims 1 to 10 are presently pending in the application, each of which are believed to be in condition for allowance. Reexamination and reconsideration in light of the following remarks are respectfully requested.

Claim Rejections - 35 U.S.C. § 103:

In the Action, claims 1-10 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,396,944 to Kung. ("Kung"). This rejection is respectfully traversed.

Independent claims 1 and 6 of the present invention recite a manufacturing method of a phase-shift mask, comprising, *inter alia*, seeking a relationship of optical conditions of an exposure optical system used for exposure and a mask structure with displacement of a pattern to be transferred by exposure, and finding the optical conditions and mask structure that limit displacement of the pattern within a required range, taking manufacturing errors of the mask into consideration.

As disclosed on page 4, lines 7-17 of the specification, the above-recited method allows a phase-shift mask to be manufactured **with minimal pattern transfer displacement** while ensuring a lithography process tolerance is maintained, thereby resulting in improved transfer positional accuracy.

The Kung reference, in contrast, is not directed to improving pattern transfer displacement, but is instead concerned primarily with detecting defects present in phase shift masks which have been formed on transparent or opaque substrates. (see col. 1, lines 34-43). Specifically, the Kung patent fails to disclose, teach or suggest the steps of seeking a relationship of optical conditions of an exposure optical system and a mask structure with displacement of a pattern to be transferred by exposure, and finding the optical conditions and the mask structure **that limit displacement of the pattern within a required range**, as is recited in claims 1 and 6 of the present invention.

In fact, as is demonstrated by the Abstract of Kung, the Kung reference examines the phase-shift masks for defects only ***after*** these patterns have been formed on their respective substrates. In other words, the inspection of the masks performed by the Kung reference occurs too late to limit transfer pattern displacement- the phase shift mask has already been formed on the substrate.

Although the examiner argues that the steps recited in claims 1 and 6 of the present invention are mental process steps and are allegedly obvious in light of the Kung reference, mental process claims have been, and are, subject to the same legal requirements for patentability as applied to any other process or method. See State St. Bank & Trust Co. v. Signature Fin. Group, 149 F.3d 1368, 1374 (Fed. Cir. 1998). Accordingly, as established by Federal Circuit precedent, to establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See In re Royka, 490 F.2d 981, 985, 180 USPQ 580 (CCPA 1974). Thus, because the Kung reference fails to disclose, teach or suggest each and every limitation of claims 1 and 6, a *prima facie* of the claims has not been established, and withdrawal thereof is respectfully requested.

Moreover, aside from the novel limitations recited therein, claims 2-5 and 7-10, being dependent either directly or indirectly upon either allowable base claim 1 or 10, are also allowable for at least the reasons set forth above. Withdrawal of the rejection of these claims is therefore courteously solicited.

Claim Rejections- Alleged Double Patenting

In the Action, claims 1-10 were rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1 and 10 of U.S. Patent No. 6,391,501 B1 to Ohnuma ("Ohnuma"). This rejection is respectfully traversed.

As stated in M.P.E.P § 804(II)(B)(1), "[a] double patenting rejection of the obviousness-type is 'analogous to the nonobviousness requirement of 35 U.S.C. § 103.'" (quoting In re Braithwaithe, 379 F.2d 594, 154 USPQ 29 (CCPA 1967)). As such, in order to establish a double-patenting rejection of the obviousness-type, all claim limitations must be taught or suggested by the claims of the cited patent. The disclosure of such patent, however, may not be used. Id. As explained above, claims 1 and 6 of the present invention recite, *inter alia*, finding the optical conditions and mask structure that limit displacement of the pattern within a required range. The Ohnuma reference, in contrast, fails to disclose, teach or suggest at least this step.

While the Ohnuma reference arguably teaches of "precisely" transferring a photo mask pattern onto a wafer by a photolithographic process (col. 1, lines 20-23), no disclosure or suggestion is made within the Ohnuma reference of finding optical conditions and mask structures which limit pattern displacement within a required range, as is recited in independent claims 1 and 6 of the present invention. Accordingly, for at least the

foregoing reasons, the double patenting rejection of claims 1-10 fails, and withdrawal thereof is respectfully requested.

Conclusion:

For at least the foregoing reasons, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the examiner is respectfully requested to pass this application to issue. If the examiner has any comments or suggestions that could place this application in even better form, the examiner is invited to telephone the undersigned attorney at the below-listed number.

Respectfully submitted,

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By: _____

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